

ABSTRACT

A well tool locking apparatus compatible with high temperature, high pressure well conditions comprises a packing ring mandrel that carries a sliding locking dog cage. The locking dogs are expanded radially into a tubing nipple channel by the axial translation of a ramped step on the mandrel surface. Chevron ring packing seals are positioned between the locking dog cage and an abutment shoulder around the mandrel. Translation of the mandrel against the locking dog cage engages the tool locking dogs and expands the chevron ring seal against the inside bore surface of the tubing nipple. The locked and sealed position is held by buttress threads on the mandrel engaged with a body lock ring